Review of List of Indiana Sources Subject to

Sulfur Dioxide (SO_2) Data Requirements Rule (DRR)

As required by the DRR, on January [xx], Indiana submitted a list of sources to be subject to provisions of the DRR for air quality characterization or otherwise addressing nearby air quality. EPA has reviewed available 2014 data and concurs that Indiana has identified all the sources in the state that emit more than 2,000 tons per year (tpy) of SO_2 and therefore must be subject to DRR requirements.

The DRR provides that, in addition to sources emitting over 2,000 tpy, sources emitting less than 2,000 that nevertheless have high potential for causing violations of the SO_2 air quality standard may also be listed at the discretion of the state and EPA. Accordingly, EPA has conducted a targeted review of sources in Indiana and elsewhere emitting less than 2,000 tpy of SO_2 that may be particularly prone to raise concerns about nearby air quality.

From this review, EPA has identified U.S. Mineral Products, commonly known as Isolatek, a mineral wool manufacturer located near Huntington, in Huntington County, Indiana, as causing concerns about nearby air quality and warranting being listed as subject to the requirements of the DRR. The following sections describe the targeting process EPA followed, evidence regarding recent emissions at Isolatek, and the reasons that EPA believes that Isolatek warrants listing as subject to the DRR.

Targeting Process

EPA examined emissions data and stack parameter data for sources in Indiana and other states as a means of identifying sources most likely to cause violations of the SO_2 standard. Since sources emitting over 2,000 tpy were already subject to requirements to be addressed under the DRR, this review addressed only sources emitting less than 2,000 tpy according to recent emissions data. Part of this review involved assessing emission estimates, particularly where sulfur in raw materials used in production are prone to cause uncertainties in emission estimates. This review also examined stack heights, insofar as low stack heights are prone to result in high SO_2 concentrations. [Dan, any other parameters in your screening? E.g., flow rates and temperatures?]

This screening identified Isolatek as having the greatest potential among sources in Indiana emitting under 2,000 tpy for causing violations of the SO_2 standard.

Emissions from Isolatek

A critical challenge in assessing emissions from Isolatek is addressing the emissions arising from sulfur contained in the slag that the company processes. Emissions for this facility have been estimated by using the AP-42 emission factor for SO_2 emissions, which for cupolas at mineral wool manufacturing facilities is 8.0 pounds of SO_2 per ton of feed charged. However, the rating of this emission factor is D, and actual emissions from a mineral wool manufacturer can be highly dependent on the sulfur content of the slag.

A better estimate of the emissions from this facility is obtained by applying the results of a stack test conducted on December 18, 2007. This stack test indicated emissions of 21.6 pounds of SO_2 per ton of charged material.

The emissions rate reported for 2014 in the draft 2014 National Emissions Inventory was 164 tons. We believe a more appropriate emission estimate for this facility would be based on a cupola emission factor of 21.6 pounds per ton rather than 8.0 pounds per ton. Thus, we believe that a more appropriate estimate of 2014 emissions from this facility would be approximately 444 tons of SO_2.

Furthermore, based on production data that our enforcement group has obtained, 2014 seems to have been a year with unusually low production, with production at about 36 percent of capacity. Evidently, the company produced as much mineral wool in the first half of 2015 as they produced in all of 2014. Production in 2015 appears more representative of normal production. Thus, emissions during times of normal production appear to be over 800 tons per year.

Other Factors

According to [source of data], the stack at Isolatek is relatively short, having a height of 14.6 meters, or 48 feet. [I'm assuming we didn't screen by flow rate or temperature, but if we did, we should say something about the data and its source.] As a result, preliminary review of this facility indicates the likelihood of nearby concentrations exceeding multiple times the air quality standard slightly east of the city of Huntington, where the facility is located.

Conclusion

Isolatek has significant potential for causing violations of the SO_2 standard. Further review is warred to determine whether violations are in fact occurring near this facility. Thus, this facility appears to warrant listing as a source subject to the requirements of the DRR.